

# 8.5

## Area of Parallelograms

**Goal** Find the area of parallelograms.

### VOCABULARY

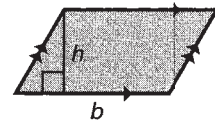
Base of a parallelogram

Height of a parallelogram

### AREA OF A PARALLELOGRAM

**Words** The area of a parallelogram is the product of a \_\_\_\_\_ and its corresponding \_\_\_\_\_.

**Symbols**  $A =$  \_\_\_\_\_



### Follow-Up

For each formula, draw a diagram and write the formula.

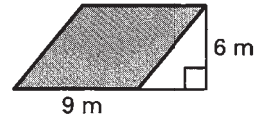
Area of a Rectangle

Area of a Parallelogram

Compare the formulas.

**Example 1** Find the Area of a Parallelogram

Find the area of the parallelogram.

**Solution**

Use the formula for the area of a parallelogram.

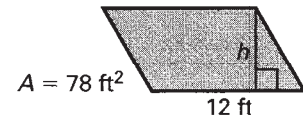
Substitute \_\_\_ for  $b$  and \_\_\_ for  $h$ .

$$A = bh = (\quad)(\quad) = \quad$$

Answer The parallelogram has an area of \_\_\_ square meters.

**Example 2** Find the Height of a Parallelogram

Find the height of the parallelogram, given that its area is 78 square feet.

**Solution**

$$A = bh$$

Formula for the area of a parallelogram

$$\quad = \quad h$$

Substitute \_\_\_ for  $A$  and \_\_\_ for  $b$ .

$$\quad = h$$

Divide each side by \_\_\_.

Answer The height of the parallelogram is \_\_\_ feet.

**Checkpoint** Find the area of the parallelogram.

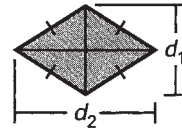
<b>1.</b>	<b>2.</b>	<b>3.</b>
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In Exercises 4–6,  $A$  represents the area of the parallelogram. Find the missing measure.

<b>4.</b> $A = 72 \text{ in.}^2$ 	<b>5.</b> $A = 30 \text{ m}^2$ 	<b>6.</b> $A = 28 \text{ cm}^2$ 
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## AREA OF A RHOMBUS

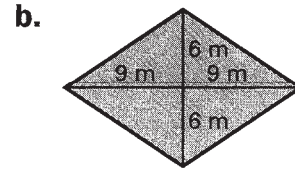
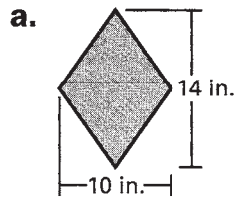
**Words** The area of a rhombus is equal to \_\_\_\_\_ the product of the lengths of the \_\_\_\_\_.



**Symbols**  $A =$  \_\_\_\_\_

### Example 3 Find the Area of a Rhombus

Find the area of the rhombus.



#### Solution

a.  $A = \frac{1}{2}d_1d_2 = \frac{1}{2}(\underline{\hspace{1cm}})(\underline{\hspace{1cm}}) = \underline{\hspace{1cm}}$  square inches

b.  $A = \frac{1}{2}d_1d_2 = \frac{1}{2}(\underline{\hspace{1cm}})(\underline{\hspace{1cm}}) = \underline{\hspace{1cm}}$  square meters

#### ✓ Checkpoint Find the area of the rhombus.

